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ABSTRACT

In this study, which investigates the association of parity and maternal attitudes during pregnancy, a 30-item questionnaire was completed by 17 primiparous and 33 multiparous mothers in their 8th month of pregnancy at the Obstetrics-Gynecology Clinic at a university medical center. Measures were obtained on five scales: quality of available support system, anxiety, depression, reciprocity (infant's ability to communicate and seek social interaction with mother as well as her ability to understand and respond), and maternal stereotypes, or responses reflecting perceived social desirability. Individual items on all scales correlated highly with their respective totals; however, there were more significant inter-item correlations on the support system scale than the other scales. Differences were found between multiparous and primaparous mothers in harmony of home life, depression, anxiety and attitudes reflecting reciprocity. Level of education was associated with some of the measures. (Author/MS)

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PARITY EFFECTS ON MATERNAL ATTITUDES DURING PREGNANCY

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The purpose of this study was to explore the association of parity and maternal attitudes during pregnancy. Research investigating the relationship between maternal attitudinal characteristics and aspects of pregnancy, delivery, and the mother-infant interaction has primarily focused on two dimensions of attitudes, hostility-rejection and authoritarianism-control. This emphasis has appeared to several authors to be too narrow to assess the factors operating in the early mother-infant interaction (Cohler, Weiss, & Grunebaum, 1970; Tulkin & Cohler, 1973); attitudes reflecting encouragement of reciprocity have been considered not only to be salient in the mother-infant interaction but have been found to have consistent relations with maternal behavior.

An emotional characteristic studied extensively through pregnancy has been maternal anxiety (Ferreira, 1969; Grimm, 1967; Grimm & Venet, 1966). Although there is wide individual variation in the emotional reaction to pregnancy, there is some evidence for an increase in anxiety throughout the pregnancy (Clifford, 1962). Schaefer and Manheimer (1960) indicated that women in their first pregnancy reported significantly more dependency and more fears for self and infant during pregnancy than women in subsequent pregnancies. Clifford (1962) gave the Pregnancy Research Questionnaire to groups of women and found that during their first pregnancy, women reported significantly greater desire for the pregnancy, greater fears for the coming infant, less irritability, and greater marital happiness.

The present research had two purposes: the standardization of a questionnaire dealing with a) the quality of the support system, b) anxiety, c) depression, and attitudes toward d) reciprocity (infant's ability to communicate and seek interaction with mother, her ability to understand and respond), and e) maternal stereotypes, and an exploration of the relationship between parity and items from these five scales.

Method

Subjects

Women attending the Obstetrics-Gynecology Clinic at the West Virginia University Medical Center were asked to complete the questionnaire. There were no refusals; 17 primiparous mothers and 33 multiparous mothers, eight months pregnant as determined by the expected delivery date on medical records, have contributed to the present analysis. The average age was 23.1 years for primiparous mothers (range 17-36) and 24.7 years for multiparous mothers (range 18-33). The average educational level was 13.3 years (range 8-18) and 12.1 years (range 9-17) for primiparous and multiparous mothers, respectively.

Development of Questionnaire

A review of the literature on maternal attitudinal and emotional characteristics during pregnancy revealed emphasis on anxiety and depression. In the present research, there was also an interest in the quality of the support system available, particularly that concerning the husband (Grimm & Venet, 1966), attitudes toward reciprocity, and attitudes toward maternal stereotypes which may reflect socially desirable responding to some extent. In addition, the

instrument was daigned to be brief, in order to permit completion while the subject was present in the Obstetrics-Gynecology Clinic, typically a short time prior to her appointment.

The items for the depression scale were based on items from Schaefer and Manheimer's ten-item depression scale from their Pregnancy Research Questionnaire (1960). The measure of the support system perceived through husband and family was based on items from Berger's (1974) measure of marital and family harmony. The items for the reciprocity scale were taken from the Maternal Attitude Scale (Cohler, et. al., 1970). Also included from that scale were items intended to investigate expression of stereotype and conventional attitudes toward mothers and children, or responses reflecting perceived social desirability.

The within scale and between scale rank order correlations may be seen in the following tables. The support system scale yielded the most consistent within scale reliabilities as illustrated in Table 1. As with all the scales, higher

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Insert Table 1 here

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scores indicated a "maladaptive" attitude; for example, expression of low spouse interest in daily activities tended to accompany an expression of friend's rating of the relationship as more distant. Cooperation in the home and effort to care for family yielded the fewest number of relationships with other items in the scale.

Except for the first item, the anxiety scale items,as indicated in Table 2 yielded high association with the scale total but few significant interitem

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Insert Table 2 here

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correlations (although there were more than that expected by chance) These intercorrelations revealed that fears for infant tended to form a cluster, whereas fears for self did not yield a pattern of responding.

The correlations for the reciprocity scale are shown in Table 3;

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Insert Table 3 here

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again, high correlations of items with the total score were found, except for the last item, but few between item correlations were found. However, statements reflecting low understanding between mother and her five-month-old were associated with statements that infants lack understanding of mother's smile and are unable to express their wants.

Except for one item, the items on the depression scale yielded few significant correlations although all were correlated with the scale total as illustrated in Table 4. Expression of unhappiness was associated with greater frequency of crying spells, less enjoyment of pregnancy, and greater loss of interest during pregnancy.

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Insert Table 4 about here

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The maternal stereotypes scale yielded fewer significant correlations than would be expected by chance, as seen in Table 5. However, all items were

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Insert Table 5 about here)

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significantly correlated with the total. The only significant interitem correlation was the relation between expression of few difficulties in raising children and little maternal anger toward her children.

Except for significant correlations among the anxiety, reciprocity, and depression scale totals and the support system and depression scale totals, there was little relation found among the scale totals, indicated in Table 6. The intercorrelations that did appear revealed that support, anxiety,and depression score totals formed a cluster of responses to pregnancy. These results reflected the first purpose of the research, the standardization of the thirty-item questionnaire.

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Insert Table 6 about here

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Results and Discussion

The results discussed here were based on a rank order correlation analysis of the relationship between parity and parent's education and scores on the items of the five questionnaire scales.

Parity

Parity was found to correlate significantly with several items on the questionnaire and with all scale totals except the stereotype scale total as illustrated in Table 7.

Insert Table 7 about here

A fairly consistent relationship was found between parity and support system items; parity corresponded significantly with four items and thus with the scale total. Multiparous mothers reported more difficulty in expressing personal emotional feelings to their spouses ($r = .38$, $p < .01$), felt that their spouse expressed less interest in their daily activities ($r = .28$, $p < .05$), indicated that their relationship to their husband would be rated as more distant by friends ($r = .38$, $p < .01$), indicated greater difficulty in caring for their family than primiparous mothers ($r = .43$, $p < .01$)., and thus reported less overall support ($r = .45$, $p < .01$). The relationship between increased parity and decreased harmonious homelife appeared to be independent of the number of years married since controlling for years married did not reduce the correlations. This finding was consistent with those indicating a decreased amount of marital communication and wife's satisfaction with the presence of children (Rollins & Feldman, 1970). Clifford (1962) and Grimm and Venet (1966) also reported less marital happiness among multigravidae and multiparae, respectively.

Multiparous mothers were also found to be more anxious overall than primiparous mothers ($r = .42$, $p < .01$) and worried more that their infant might be injured during birth ($r = .37$, $p < .01$). When mother's education was controlled, these correlations diminished. These data contradicted those found by Clifford (1962) and Schaefer and Manheimer (1960) in which primigravida and primiparous mothers were found to be the more anxious; that is, had more fears for themselves and their infants. Ferreira (1960) also reported higher fear of harming the infant for primiparous mothers on the Parental Attitude Research Instrument. However, Grimm and Venet (1966) reported no differences in anxiety between primiparous and multiparous mothers before the sixteenth week of pregnancy. The subjects for the present report were in their eighth month of pregnancy and considering the decreased support system perceived, it was conceivable that the multiparous mother would have more anxieties about having another child and therefore about the pregnancy. Clifford (1962) found that multigravida reported less desire for the pregnancy than primagravida. The present study found that although parity was not associated with initial reaction to pregnancy, the number of children was. As number of children increased, a negative initial reaction to pregnancy increased ($r = .29$, $p < .05$). Similar results were reported by Grimm and Venet (1966).

Differences in reciprocity between primiparous and multiparous mothers were found. Multiparity was associated with the expression of attitudes reflecting less overall reciprocity ($r = .41$, $p < .01$); specifically, it was associated with

statements that mothers and both three- and five-month-old infants were not able to understand each other ($r = .48$, $p < .001$; $r = .32$, $p < .05$, respectively). Although mother's education was negatively associated with reciprocity items, controlling for mother's education for the parity correlation did not diminish these relationships. These results were contradictory to those expected and also seemed contradictory to Hock's (1976) findings that older, married women had more adaptive reciprocity attitudes on the Maternal Attitude Scale. However, multiparous mothers tended to have a lower level of education ($r = -.26$, $p = .07$) than primiparous mothers; education was found to be significantly correlated to reciprocity and will be discussed at a later point. It should be further noted that the items on this scale dealt with reciprocity between mother and infant; perhaps the woman with older children did not remember specific interactions with her previous children as infants. The average age for the multiparous mother's youngest child was 3.17 years.

Consistent differences in depression scores were found for primiparous and multiparous mothers. Multiparity was associated with statements reflecting more overall depression ($r = .52$, $p < .0001$), less happiness and cheerfulness during pregnancy ($r = .46$, $p < .001$), less enjoyment of pregnancy ($r = .41$, $p < .01$), and more unhappiness and low spirits ($r = .43$, $p < .01$). These correlations did not appear to be mediated by number of years married or by mother's or father's age. These findings were different from those of Schaefer and Manheimer (1960) and Clifford (1962) who found no difference in depression between primigravida and multigravida.

Overall, multiparous mothers reported less harmonious homelives, more depression and anxiety, and less reciprocity attitudes than primiparous mothers.

Parental Education

Both mother's and father's education were associated significantly with scores on the anxiety and reciprocity scales as seen on Table 7. The relation of both parent's education to scores on the anxiety scale items was particularly consistent. Mother's education was highly assoicated with father's education; $r = .73$, $p < .0001$. A higher level of parental education was associated with less reported anxiety about loss of infant, injury of infant during birth, difficult delivery, and thus lower total anxiety score.

Mother's education was more consistently associated with scores on the reciprocity scale than was father's education. Higher maternal education was associated with expression of attitudes reflecting higher reciprocity on three of the five items and thus the total score. Higher paternal education was correlated significantly with only one item on that scale; wives of husbands with higher education were more likely to indicate an infant's understanding of mother's smile.

Thus, higher parental education was associated with less anxiety and greater expression of reciprocity.

General Discussion

Both clinical case studies (Colman, 1969) and survey research (Grimm, 1967; Grimm & Venet, 1966) have emphasized the father's reaction to the pregnancy as influential in the mother's adaptation to stresses present during her pregnancy. It appears that the sole emphasis on the father as the support system has been limited and the entire family system needs to be considered. An emphasis on the situation within the entire family unit may provide further insight into the woman's general reaction to pregnancy and her more specific reaction to the additional member of the family.

The multiparous mother in the present study reported difficulty in communicating with her husband, lack of his interest in her activities, and difficulty in caring for her family. Thus, it would be possible that the lack of positive communication from her husband might lead a woman to ascribe poor communication skills to any member of her family, including her infant. However, both attitudes may reflect the woman's lack of ability to communicate with members of her family. In either case, it appears that the pattern of family communication should be considered. However, there was no relationship between maternal education and quality of support system. It would seem that increased education would be associated with increased ability to communicate with husbands also.

An alternative hypothesis has been offered by Rossi (1968); she has suggested that with increased experience in a role, there may be less enjoyment of the performance of that role, and although multiparous mothers may be more experienced in child care, they may have a less prompt and enthusiastic response to a child's demands. The higher degree of depression in multiparous mothers may be a reflection of this decreased enjoyment of the maternal role.

In summary, consistent differences have been found between primiparous and multiparous mothers, and these differences, especially in reciprocity, may be related to maternal inability to communicate with family members or decreased enjoyment of role performance. However, these data indicate that educational experience may serve to enhance mother-infant communication.

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TABLE 1
SUPPORT SYSTEM - WITHIN SCALE RELIABILITIES

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Total
"Talk things over" (1)			.40**	.31*		.41**		.41**	.51****
Expressing personal emotional feelings to husband (2)			.52***	.35**		.65***	.37**	.27*	.75****
Spouse's interest in daily activities (3)						.70****		.36**	.70****
Couple's wish to have child (4)						.48***		.29*	.57****
Cooperation in home (5)								.43**	.47***
Friend's rating of relationship with spouse (6)								.42**	.77****
Effort to care for family (7)									.52****
Freq. of pleasant experiences with spouse (8)								[illegible]	.66****

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .0001$

TABLE 2

ANXIETY SCALE - WITHIN SCALE RELIABILITYES

	(1)	(2)	(3)	(4)	(5)	(6)	Total
Initial reaction to pregnancy (1)							
Loss of infant (2)				.33*	.38**	.28*	.70**
Effect of pregnancy & childbirth on health (3)							.33*
First experience with infant (4)							.49***
Infant's injury during delivery (5)						.67****	.73****
Difficult delivery (6)							.68***

* p < .05
** p < .01
*** p < .001
**** p < .0001

TABLE 3

RECIPROCITY SCALE - WITHIN SCALE RELIABILITIES

	(1)	(2)	(3)	(4)	(5)	Total
Understanding-- mother & 5-mo-old (1)		.29*	.46***			.70****
Infant's understanding of mother's smile (2)						.56****
6-mo-old's expression of wants (3)				.44***		.70****
3-mo-old's expression by smile (4)					-.39**	.59****
1-yr-old's initiation of games (5)						

* p < .05
** p < .01
*** p < .001
**** p < .0001

TABLE 4

DEPRESSION SCALE - WITHIN SCALE RELIABILITIES

	(1)	(2)	(3)	(4)	(5)	Total
Happy and cheerful (1)						.50***
Unhappy & in low spirits (2)			.47***	.35**	.38**	.76****
Frequency of crying spells (3)						.72****
Enjoyment of pregnancy (4)						.56****
Loss of interest (5)						.59****

** p < .01
*** p < .001
**** p < .0001

TABLE 5

STEREOTYPES SCALE - WITHIN SCALE RELIABILITIES

	(1)	(2)	(3)	(4)	(5)	Total
Parents tell truth to children (1)						.56****
Mother's worry about children (2)						.36**
Children's lies to mother (3)						.63****
Difficulties in raising children (4)					.49***	.63****
Mother's anger with children (5)						.63****

** p < .01
*** p < .001
**** p < .0001

TABLE 6

BETWEEN SCALE CORRELATIONS

	(1)	(2)	(3)	(4)	(5)
Support (1)		.27	.05	.38**	.14
Anxiety (2)			.31**	.29*	.11
Reciprocity (3)				.24	.05
Depression (4)					-.05
Stereotypes (5)					

* p <.05
** p <.01

TABLE 7

CORRELATIONS BETWEEN PARITY AND EDUCATION

AND QUESTIONNAIRE ITEMS

SCALE	PARITY	MOTHER'S EDUC.	FATHER'S EDUC.
Support System			
Expressing personal emotional feelings to husband	.38**	-.02	-.08
Spouse interest in daily activities	.28*	-.14	-.10
Friend's rating of relationship with spouse	.38**	.04	.02
Effort to care for family	.43**	-.13	-.10
Total	.45**	-.17	-.24
Anxiety			
Loss of infant	.19	-.38**	-.42**
Infant's injury during delivery	.42**	-.44**	-.32*
Difficult delivery	.19	-.39**	-.41**
Total	.37**	-.47***	-.45***
Reciprocity			
Understanding-- mother & 5-mo-old	.32*	-.30*	-.13
Infant's understanding of mother's smile	.13	-.44***	-.29*
3-mo-old's expression of smile	.48***	-.29*	-.19
Total	.41**	-.38**	-.17

(continued)

TABLE 7 (con't)

CORRELATIONS BETWEEN PARITY AND EDUCATION

AND QUESTIONNAIRE ITEMS

SCALE	PARITY	MOTHER's EDUC.	FATHER's EDUC.
Depression			
Happy and cheerful	.46***	-.20	.06
Unhappy & in low spirits	.43**	-.12	-.11
Enjoyment of pregnancy	.41**	.06	.04
Loss of interest	.23	-.30*	-.22
Total	.52****	-.19	-.06
Mother's education	-.26 (p=.07)		.73****
Years married	.44**	.04	.14

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .0001$